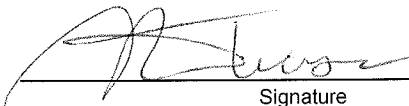


<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional)  A-8890.RCE#2					
<p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]</p> <p>on _____</p> <p>Signature _____</p> <p>Typed or printed name _____</p>	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; padding: 5px;">Application Number  10/762,563</td><td style="width: 50%; padding: 5px;">Filed  01/23/2004</td></tr><tr><td colspan="2" style="padding: 5px;">First Named Inventor  Ralf-Peter Peters</td></tr><tr><td style="padding: 5px;">Art Unit  1772</td><td style="padding: 5px;">Examiner  Kingan</td></tr></table>	Application Number  10/762,563	Filed  01/23/2004	First Named Inventor  Ralf-Peter Peters		Art Unit  1772	Examiner  Kingan
Application Number  10/762,563	Filed  01/23/2004						
First Named Inventor  Ralf-Peter Peters							
Art Unit  1772	Examiner  Kingan						
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start; margin-top: 20px;"><div style="width: 45%;"><p>I am the</p><p><input type="checkbox"/> applicant/inventor.</p><p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p><p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>27,408</u></p><p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p></div><div style="width: 50%; text-align: center;"><div style="margin-bottom: 10px;"> Signature</div><div style="margin-bottom: 10px;">Mitchell B. Wasson _____ Typed or printed name</div><div style="margin-bottom: 10px;">(703)920-1122 _____ Telephone number</div><div style="margin-bottom: 10px;"><u>July 5, 2011</u> _____ Date</div></div></div> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><p><input type="checkbox"/> *Total of _____ forms are submitted.</p></div>							

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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### PRE-APPEAL BRIEF

Claims 51-53 were rejected under 35 U.S.C. §103(a) as being unpatentable under U.S. Patent No. 6,395,232 to McBride in view of U.S. Patent Application Publication No. 2003/0005967 to Karp and U.S. Patent Application Publication No. 2002/0195463 to Seki et al. Claim 54 was rejected under 35 U.S.C. §103(a) as being unpatentable over the McBride reference in view of the references to Karp and Seki et al., as well as U.S. Patent Application Publication No. 2003/0141473 to Pelrine et al. Claims 55-57 were rejected under 35 U.S.C. §103(a) over the McBride, Karp and Seki et al. references as applied to claims 51-53 and further in view of U.S. Patent No. 5,872,010 to Karger et al. These rejections are believed to be improper and Appellants respectfully request that the Final Rejection be withdrawn prior to the filing of an Appeal Brief.

As described on pages 14-15 in the Amendment filed on December 20, 2010, the present invention is directed to a microfluidic arrangement for metering amounts of liquids. This microfluidic arrangement includes a series of first, second and third channels, all of which are provided on the same planar surface. Movement between a first reservoir also provided on the same planar surface, the first channel as well as the series of second and third channels, is accomplished due to the fact that the capillarity of the channels remains the same or increases from a branch point between the first channel and each of the second channels as far as a capillary stopping device provided between the second and third channels. All of the claims in the application recite that the first channel has one inlet and one outlet. The purpose of the outlet is described on page 3 of the Specification where it is stated, "The amount of liquid which

is still at the inlet or which is still contained in the first channel is then transported as a result of capillarity within the first channel to its outlet.”

As previously indicated, the Examiner has rejected all of the claims under 35 U.S.C. §103(a) as being unpatentable over the primary reference to McBride in combination with two or three additional references. It is Applicants’ contention in this Pre-Appeal Brief that the Examiner has not merely misinterpreted the teachings of the McBride reference, but has made major mischaracterizations of this reference with respect to the recitation of the outlet and the capillarity movement of fluid between the first channel and the outlet as well as between the first channel and the second channel. These features are recited in all of the claims present in the application.

Each of the claims of this application either directly or indirectly recites the use of a first channel having one inlet and one outlet. As previously recited, the amount of liquid which is still at the inlet or which is still contained in the first channel is then transported as the result of capillarity within the first channel to its outlet.

The McBride patent describes a microfluidic device including a top layer 7, which is called a reagent reservoir, a middle or fluidic delivery layer 8 as well as a bottom layer 9. These layers are clearly shown in Figures 1 and 2 and are on three different planes. Therefore, McBride clearly does not include a system having a reservoir as well as various fluid channels on a single planar surface as required in claims 55-57. Contrary to the present invention as claimed, McBride utilizes a gas delivery system 12 having a low pressure subsystem 20, as well as a high pressure subsystem 22 to move liquid from a fluid reservoir, through a valve 15 to the microfluidic device 16, and not the capillarity of the channels. Column 4, lines 20-33 of

McBride indicates that samples can be moved between the plates 7, 8 and 9 utilizing pumping, draining or capillary action. The Examiner has utilized this paragraph to indicate that McBride does disclose that fluid may be moved through the fluidic system by capillary action. However, this paragraph clearly states that the movement is between a plurality of planar surfaces, not the single planar surface on which the first, second and third channels are provided as recited in each of the claims of the present application.

As clearly stated in each of the claims, the fluidic arrangement includes a first channel having one outlet. The Examiner, on page 4 of the previous Office Action, admits that McBride does not teach that the first channel has one outlet. However, the Examiner goes on to state that a second input 46'' of the McBride reference may be used as an outlet. This is in contradistinction to the teachings of the McBride patent which utilized first and second inputs 46' and 46'' as shown in Figure 10 to overcome the decrease in pressure due to the distance from the input and a pressure drop. This is due to the fact that the number of reaction wells 52 in fluid communication with inputs 46' and 46'' could approach 10,000, thereby necessitating the requirement that two input sources are needed. Furthermore, the Examiner has given no motivation for adding an output to the McBride reference other than the fact that the second input may also function as an outlet of the first channel. It is respectfully submitted that the Examiner cannot change the fact that the McBride reference does not include a first channel connected to an outlet merely by stating that an input can be an output, when clearly this is not the case. Quite simply, an inlet is not an outlet as required by the claims and to call 46'' an outlet is contrary to the teachings of McBride itself.

Furthermore, as pointed out in the paragraph bridging pages 17 and 18 of the Amendment filed on December 20, 2010, the McBride patent could and would not operate utilizing the difference in capillarity between various channels and branch points due to the use of the input and pressure drop to move liquid from the reagent reservoir into the channels of McBride. The Examiner responded to this argument on page 2 of the last Office Action by indicating that a pressurized system of fluids is not claimed or excluded by the Applicant. However, all of the claims in the present invention specifically recite movement utilizing capillarity. The Examiner has missed the point regarding whether Applicants exclude or claim a pressurized system. Applicants claim a system specifically employing capillary movement. Applicant has merely pointed out that the pressurized system of McBride does not, and cannot use the capillary movement on a single planar surface. This argument has merit regardless of whether Applicants have claimed or excluded a pressurized system.

Finally, the Examiner argues the necessity of the outlet of the first channel as ventilation during fluid transport. However, the outlet of the first channel is not only necessary for ventilation. The outlet also serves to discharge superfluous fluid which cannot be absorbed by the second channels, so that the superfluous fluid cannot accumulate in the first channel or that this fluid is discharged via the second channel. Only if the superfluous fluid is discharged by the outlet of the first channel would a complete separation of the fluid in the second channel from the remaining fluid in the first channel take place.

In conclusion, it is respectfully submitted that the present invention as recited in claims 52-57 is not rendered obvious by the combination of the references cited by the Examiner, since the McBride patent clearly does not include a first channel having one inlet and one outlet.

Consequently, since the McBride reference does not include a first channel and an outlet, any combination of the additional references also fails to provide a teaching for each and every component included in the claims, as required by 35 U.S.C. §103(a).

Additionally, the Examiner's conclusion that McBride utilizes capillary action to move liquids between the first channel and the outlet on the same planar surface is clearly erroneous since the only mention in the McBride reference of capillary action relates to movement between planar surfaces. Finally, the Examiner's contention that greater capillarity at the branch point is an inherent property of the McBride system and fluid is directed to second channels instead of continuing in a first channel has no basis in fact in the McBride reference. The manner in which the second channels in McBride are filled as shown in Figure 5 is more likely due to the pressurized system that McBride operates and not any capillary action.

Accordingly, it is believed that the Examiner has not made a *prima facie* case of obviousness of claims 51-57. Applicants, therefore, respectfully request that all of the rejections in this application be withdrawn.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "M. Wasson", with a stylized, cursive script.

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